

What is claimed is:

1. A refrigerating cycle comprising a compressor and a throttling unit, wherein a connection piping in a coil shape is provided in at least front part or rear part of the throttling unit, a fine pipe is connected to a lower part of the connection piping, and a collector for collecting foreign matter in the refrigerating cycle is coupled to a leading end of the fine pipe.

2. A refrigerating cycle comprising a compressor and a throttling unit, wherein a fine pipe is connected to a connection piping provided in at least front part or rear part of the throttling unit, a center line of the fine pipe is inclined at 90° or less in a flowing direction of refrigerant, and a collector is coupled to a leading end of the fine pipe.

3. A refrigerating cycle comprising a compressor and a throttling unit, wherein a rotary plate twisted in a spiral direction is provided in a piping for composing the refrigerating cycle, a fine pipe is connected to the piping at a downstream side of the rotary plate, and a collector is attached to a leading end of the fine pipe.

4. The refrigerating cycle of any one of claims 1 to 3, wherein a magnetic piece is disposed in the collector.

5. The refrigerating cycle of any one of claims 1 to 4, wherein hydrofluorocarbon is used as refrigerant, and a

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having a compressing mechanism incorporated in an enclosed container, a muffler is provided at a discharge part of compressed refrigerant, and a communication path curved in a circumferential direction is provided in a discharge hole of the muffler, a fine pipe is connected to an outside of the communication path, and a collector is coupled to a leading end of the fine pipe.

In claim 9 of the invention, a fine pipe inclined at 90° or less in a flowing direction of refrigerant is connected to a discharge pipe for discharging compressed refrigerant, and a collector is coupled to the fine pipe.

In claim 10 of the invention, a fine pipe inclined at 90° or less in a flowing direction of refrigerant is connected to a discharge pipe for discharging compressed refrigerant, the fine pipe is connected to an inlet of a collector, a filter is provided in the collector, a bypass pipe is coupled to the other outlet of the collector, and a leading end of the bypass pipe is coupled with the discharge pipe.

In claim 11 of the invention, a compressing mechanism includes a rotary shaft for transmitting rotation, and an upper bearing and a lower bearing for supporting the rotary shaft, an oil feed path for lubrication is provided in the upper bearing and the lower bearing, and a collector inclined at an angle of 90° or less in a flowing direction

of lubricating oil and closed at a leading end is provided in the oil feed paths.

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In claim 14 of the invention, relating to a compressor used in refrigerating or air-conditioning system, using chlorine-free hydrofluorocarbon used as refrigerant either alone or in mixture, and packing an enclosed container with refrigerating machine oil compatible with the refrigerant, a motor and a compressing mechanism are disposed in the enclosed container, the compressing mechanism includes a rotary shaft for transmitting rotation of the motor, an oil feed pump is provided in the rotary shaft, a communication hole for feeding refrigerating machine oil to necessary parts is formed, a passage extending downward to the communication hole is provided, and the other end of the passage is closed.

In claim 15 of the invention, relating to a compressor used in refrigerating or air-conditioning system, using chlorine-free hydrofluorocarbon used as refrigerant either alone or in mixture, and packing an enclosed container with refrigerating machine oil compatible with the refrigerant, a motor and a compressing mechanism are disposed in the enclosed container, the motor includes a stator and a rotor, the rotor has a rotary shaft for transmitting rotation to the compressing mechanism, the rotary shaft has an oil feed pump, an oil feed path for feeding the refrigerating machine

is collected in the collector through the fine pipe by flow velocity of the refrigerant.

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According to claim 3 of the invention, a rotary plate twisted in a spiral direction is provided in a piping for composing a refrigerating cycle, a fine pipe is connected to the piping at a downstream side of this rotary plate, and a collector is attached to a leading end of the fine pipe. In this constitution, from refrigerant provided with a flow in a rotating direction, foreign matter such as worn powder is separated by centrifugal force, and is collected in the collector through the fine pipe.

According to claim 6 of the invention, relating to a compressor having a compressing mechanism incorporated in an enclosed container, a recess having an action of collecting foreign matter is provided at an inside of a lowest portion of the enclosed container, whereby foreign matter such as worn powder in the enclosed container is greater in specific gravity and is collected in the recess.

According to claim 8 of the invention, relating to a compressor having a compressing mechanism incorporated in an enclosed container, a muffler is provided at a discharge part of compressed refrigerant, and a communication path curved in a circumferential direction is provided in a discharge hole of the muffler, a fine pipe is connected to an outside of the communication path, and a collector is

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coupled to a leading end of the fine pipe, whereby foreign matter in the discharge refrigerant is separated by centrifugal force, and is collected in the collector through the fine pipe.

According to claim 9 of the invention, relating to a compressor having a compressing mechanism incorporated in an enclosed container, a fine pipe inclined at 90° or less in a flowing direction of refrigerant is connected to a discharge pipe for discharging compressed refrigerant, and a collector is coupled to the fine pipe, whereby foreign matter is separated from the refrigerant by a flow of the refrigerant, and is collected in the collector of foreign matter.

According to claim 10 of the invention, relating to a compressor having a compressing mechanism incorporated in an enclosed container, a fine pipe inclined at 90° or less in a flowing direction of refrigerant is connected to a discharge pipe for discharging compressed refrigerant, the fine pipe is connected to an inlet of a collector, a filter is provided in the collector, a bypass pipe is coupled to the other outlet of the collector, and a leading end of the bypass pipe is coupled with the discharge pipe, whereby foreign matter in the refrigerant is collected by the filter.

According to claim 11 of the invention, relating to a compressor having a compressing mechanism incorporated in an

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enclosed container, the compressing mechanism includes a rotary shaft for transmitting rotation, and an upper bearing and a lower bearing for supporting the rotary shaft, an oil feed path for lubrication is provided in the upper bearing and the lower bearing, and a collector inclined at an angle of 90° or less in a flowing direction of lubricating oil and closed at a leading end is provided in the oil feed paths, whereby foreign matter such as worn powder in the refrigerating machine oil is separated by difference in specific gravity, and is collected in the collector.

According to claim 14 of the invention, relating to a compressor used in refrigerating or air-conditioning system, using chlorine-free hydrofluorocarbon used as refrigerant either alone or in mixture, and packing an enclosed container with refrigerating machine oil compatible with the refrigerant, a motor and a compressing mechanism are disposed in the enclosed container, the compressing mechanism includes a rotary shaft for transmitting rotation of the motor, an oil feed pump is provided in the rotary shaft, a communication hole for feeding the refrigerating machine oil to necessary parts is formed, a passage extending downward to the communication hole is provided, and the other end of the passage is closed, whereby foreign matter such as worn powder in the refrigerating machine oil is separated by difference in specific gravity, and is

refrigerating machine oil compatible with the refrigerant is used.

Sub E1 6. A compressor having a compressing mechanism incorporated in an enclosed container, wherein a recess having an action of collecting foreign matter is provided at an inside of a lowest portion of the enclosed container.

7. The compressor of claim 6, wherein a magnetic piece is disposed in the recess.

8. A compressor having a compressing mechanism incorporated in an enclosed container, wherein a muffler is provided at a discharge part of compressed refrigerant, and a communication path curved in a circumferential direction is provided in a discharge hole of the muffler, a fine pipe is connected to an outside of the communication path, and a collector is coupled to a leading end of the fine pipe.

9. A compressor having a compressing mechanism incorporated in an enclosed container, wherein a fine pipe inclined at 90° or less in a flowing direction of refrigerant is connected to a discharge pipe for discharging compressed refrigerant, and a collector is coupled to the fine pipe.

10. A compressor having a compressing mechanism incorporated in an enclosed container, wherein a fine pipe inclined at 90° or less in a flowing direction of refrigerant is connected to a discharge pipe for discharging

compressed refrigerant, the fine pipe is connected to an inlet of a collector, a filter is provided in the collector, a bypass pipe is coupled to other outlet of the collector, and a leading end of the bypass pipe is coupled with the discharge pipe.

11. A compressor having a compressing mechanism incorporated in an enclosed container, wherein the compressing mechanism includes a rotary shaft for transmitting rotation, and an upper bearing and a lower bearing for supporting the rotary shaft, an oil feed path for lubrication is provided in the upper bearing and the lower bearing, and a collector inclined at an angle of 90° or less in a flowing direction of lubricating oil and closed at a leading end is provided in the oil feed paths.

12. The compressor of any one of claims 8 to 11, wherein a magnetic piece is disposed in the collector.

13. The compressor of any one of claims 8 to 12, wherein hydrofluorocarbon is used as refrigerant, and a refrigerating machine oil compatible with the refrigerant is used.

14. A compressor used in refrigerating or air-conditioning system, using chlorine-free hydrofluorocarbon used as refrigerant either alone or in mixture, and packing an enclosed container with refrigerating machine oil compatible with the refrigerant, wherein a motor and a

compressing mechanism are disposed in the enclosed container, the compressing mechanism includes a rotary shaft for transmitting rotation of the motor, an oil feed pump is provided in the rotary shaft, a communication hole for feeding refrigerating machine oil to necessary parts is formed, a passage extending downward to the communication hole is provided, and other end of the passage is closed.

15. A compressor used in refrigerating or air-conditioning system, using chlorine-free hydrofluorocarbon used as refrigerant either alone or in mixture, and packing an enclosed container with refrigerating machine oil compatible with the refrigerant, wherein a motor and a compressing mechanism are disposed in the enclosed container, the motor includes a stator and a rotor, the rotor has a rotary shaft for transmitting rotation to the compressing mechanism, the rotary shaft has an oil feed pump, an oil feed path for feeding refrigerating machine oil to sliding parts is further formed in the rotary shaft, the oil feed path and one end of a fine pipe are connected with each other, and a leading end of the fine pipe and a collector provided in the rotor are connected with each other.

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